

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

17 AUG 2004

Applicant's or agent's file reference

FOR FURTHER ACTION

See paragraph 2 below

030065WO

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US04/08287

17 March 2004 (17.03.2004)

17 March 2003 (17.03.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): G06K 9/40 and US Cl.: 382/268, 261, 239

Applicant

QUALCOMM, INCORPORATED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
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Authorized officer

Christopher T. Sukhaphadhana

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/08287

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US04/08287

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-33</u>	YES
	Claims <u>NONE</u>	NO
Inventive step (IS)	Claims <u>1-33</u>	YES
	Claims <u>NONE</u>	NO
Industrial applicability (IA)	Claims <u>1-33</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

1. Claims 1, 13, 22, and 31 meet the criteria set out in PCT Article 33(2)-(3), because the prior art of record does not teach or fairly suggest at least performing deblocking filtering on one or more edge pixels of the two neighboring blocks, if it is determined that both of the two neighboring blocks are not subdivided (as recited in claim 1, and similarly in claims 13, 22, and 31), in combination with the other limitations. The closest prior art of record Lee (U.S. Patent 5,107,345) in combination with Frishman et al (U.S. Publication 2003/0044080 A1) discloses the determining limitations (Lee, col 15, lines 36-52) and performing deblocking filtering on one or more edge pixels of two neighboring blocks (Frishman, Fig 3), but does not teach or suggest the performing deblocking limitation, if it is determined that both of the two neighboring blocks are not subdivided, as claimed.
2. Claims 2-12, 14-21, 23-30, 32, and 33 meet the criteria set out in PCT Article 33(2)-(3) at least by dependency on claim 1, 13, 22, or 31.
3. Claims 1-33 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in the image decompression and enhancement industry.

**WRITTEN OPINION OF THE
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International application No.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The description is objected to as containing the following defect(s) under PCT Rule 66.2(a)(iii) in the form or contents thereof: Paragraph 31 lacks a period between "subdivided" and "Moreover". In paragraph 41, consider replacing "declocking" with "deblocking". In paragraph 42, consider removing "ass".

The drawings are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or content thereof: Figure 2, ref 230, misspells "VBSDCT".

**WRITTEN OPINION OF THE
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International application No.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claim 5 is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because claim 5 is indefinite for the following reason(s): Claim 5 attributes a two point averaging filter to the second deblocking filter while paragraph 37 attributes the two point averaging filter to the first deblocking filter.